



Figure 25. A dip tank can be used to apply fungicides (PHOTO BY G. HOLMES)



Figure 26. Fungicides may also be applied by using a waterfall/curtain. (PHOTO BY G. HOLMES)



Figure 27. Spray application over a brush bed is a common method of applying fungicides. (PHOTO BY G. HOLMES)

Eliminator. Most packing lines have one eliminator. (Less than five percent have two.) The eliminator consists of a bed of parallel metal rollers normally set 1.5 inches (3.8 cm) apart (Figure 23). The eliminator quickly removes trash and small unmarketable roots. It is important that the roller spacing does not get dented or bent, as this will increase the spacing and cause marketable roots to be discarded. Impacts can be severe if sweetpotatoes fall directly onto the rollers, rather than rolling down an incline onto the eliminator, because the rollers are supported by the chain guides.

Instrumented device readings averaged 8.8 g and ranged from a low of 0 g where the sweetpotatoes rolled down a gentle incline (total drop of 5 inches) to a high of 30.7 g in a case where the sweetpotatoes fell about 16 inches directly onto the eliminator rollers.

Grading. After washing and elimination of trash, sweetpotatoes move onto a table for hand sorting and removal of decayed or otherwise unmarketable roots. The tables are generally made of PVC rollers and should be easily accessible by workers from both sides (Figure 24). Adequate lighting is important, so that defects can be seen easily. Table height should also allow workers to reach roots in the middle of the table comfortably. Workers who directly handle roots should wear gloves to protect roots from fingernail scratches and human pathogens. Gloves will also protect workers from fungicides or other chemicals used on the packing line.

Impacts on the grading line vary, depending on height of the drop and whether there was an incline or padding. For example, one packing line had a drop height of only 3.5 inches, and the impacts were all below the threshold recorded by the instrumented device. On the other extreme, another packing line had roots dropping 12 inches directly onto the rollers, which produced a much higher impact (23.5 g).

Fungicide and other decay control treatments.

Although every effort should be made to prevent mechanical injury to sweetpotatoes during packing, it is impossible to avoid all injuries. Decay-producing organisms, especially those that cause soft rot (such as *Rhizopus stolonifer*), enter through injuries. Bruised or crushed tissue offers a particularly favorable place for decay to develop. For this reason, most sweetpotatoes not destined for canneries or further processing are treated with an approved fungicide.

TABLE 2. Average number of drops and turns, cumulative impacts, and length of packing lines, based on 24 Louisiana and 12 North Carolina packing lines.

	Average	Maximum	Minimum
Number of drops	10	19	5
Number of turns	3	8	0
Cumulative impacts (g)*	118	302	31
Length of line (ft)	102	277	37
Speed of line (ft/min)	24	59	7

*Cumulative impacts measured on all drops and turns on a packing line. Average of five runs with the impact recording device.